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April 10, 2012

Jocelyn Boyd  
Chief Clerk and Administrator  
Public Service Commission of South Carolina  
101 Executive Center Dr., Suite 100  
Columbia, SC 29210

Re: Docket No. 2009-226-E: Residential Smart Saver

Dear Ms. Boyd:

In Docket No. 2009-226-E, the Commission approved Duke Energy Carolinas, Inc. ("Duke Energy" or "the Company") Residential Smart Saver program. The purpose of the program is to encourage the installation of ENERGY STAR or other high efficiency products in new or existing residences. The program provides incentives to offset a portion of the higher cost of higher efficiency products.

To enhance the current program, the Company proposes encouraging customers to make various improvements to equipment they already have by incentivizing the installation of energy saving home improvements such as attic insulation and air sealing, duct insulation and sealing, and heat pump and air conditioner tune ups. The addition of these proposed measures would result in a total Residential Smart Saver program that is similar to Progress Energy Carolinas, Inc.'s Home Energy Improvement Program. As shown in the proposed tariff attached as Exhibit 1, the incentive will vary depending on the service and/or installation.

The Company has evaluated the expected participation in the program and applied multiple cost-effectiveness analyses to the implementation of the additional measures. The Company has attached as Exhibit 2 a document showing the expected participation level. Exhibit 3, also attached, is the benefit/cost ratio which supports implementation of the additional measures. The Company therefore requests that the Commission approve the additional measures and corresponding tariff proposed herein.

Please let me know if you have questions or comments about this matter.

Sincerely,

  
Timika Shafeek-Horton

RESIDENTIAL SMART SAVER®  
TUNE AND SEAL PROGRAM (SC)

## PURPOSE

The purpose of this program is to reduce energy usage for thermal conditioning in a residence through installation of energy efficiency measures and equipment maintenance to improve operating efficiency.

## PROGRAM

- Payments are available to owners of existing individually-metered residences, condominiums and mobile homes served on a Duke Energy Carolinas' residential rate schedule- from Duke Energy Carolinas' retail distribution system.
- Payments are available for one or more of the following services performed at the customer's residence:
  1. Heating Ventilation and Air Conditioning (HVAC) Tune Up
    - HVAC Tune-Up must include appropriate system checks, repairs, replacement of parts, correction of refrigerant charge, and adjustment of airflow.
    - The customer is eligible for only one HVAC Tune Up payment over the life of the equipment.
  2. Attic Insulation and Air Sealing
    - The level of attic insulation in the residence must be increased from a minimum of R-19 prior to improvement to at least R-30.
    - Air leakage must be reduced through sealing by at least of 5% as demonstrated by test before and after sealing is performed.
  3. Duct Insulation
    - A minimum of 1000 square feet of conditioned floor area must be served by the duct system improvement.
    - The level of duct insulation in attics must be increased from a minimum of R4-2 prior to improvement to at least R-19.
    - The level of duct insulation in unconditioned basements or crawlspaces must be increased from R-0 prior to improvement to at least R-6.
  4. Duct Sealing
    - Ducts must be sealed such that duct leakage is reduced by at least 12% as demonstrated by test before and after sealing is performed.
- All improvements eligible for payment under this program must be performed or installed by a Duke Energy Carolinas approved contractor.
- All improvements eligible for payment under this program must be installed based on manufacturer's recommendations and the Company's specifications. Detailed requirements are available on the Company's website at [www.duke-energy.com](http://www.duke-energy.com).
- To qualify for payment under this program, qualifying improvements must be made on or after (*effective date of this program*) and the application for payment must be made within 90 days of completion of the work.

## PAYMENT

Payments will be made to the owner (or his designee) for qualifying improvements as follows:

Central Air Conditioner Tune Up per unit	up to \$ 60
Heat Pump Tune Up per unit	up to \$125
Attic Insulation and Air Sealing	up to \$250
Duct Sealing	up to \$100
Duct Insulation	up to \$ 75

## Smart Saver Program<sup>1</sup> Projected Participation

	Program Name	Residential Smart Saver
1	Measure Life	12
2	Free Rider %	21%
3	Incremental Participants Year 1	450,674
4	Incremental Participants Year 2	437,915
5	Incremental Participants Year 3	273,804
6	Incremental Participants Year 4	134,975
7	Incremental Participants Year 5	161,567
8	Cumulative Participation Year 1	450,674
9	Cumulative Participation Year 2	888,589
10	Cumulative Participation Year 3	1,162,393
11	Cumulative Participation Year 4	1,297,368
12	Cumulative Participation Year 5	1,458,934
13	Cumulative Summer Coincident kW w/ losses (net free) Year 1	2,787
14	Cumulative Summer Coincident kW w/ losses (net free) Year 2	5,631
15	Cumulative Summer Coincident kW w/ losses (net free) Year 3	7,815
16	Cumulative Summer Coincident kW w/ losses (net free) Year 4	9,451
17	Cumulative Summer Coincident kW w/ losses (net free) Year 5	11,368
18	Cumulative kWh w/ losses (net free) Year 1	21,402,749
19	Cumulative kWh w/ losses (net free) Year 2	42,489,379
20	Cumulative kWh w/ losses (net free) Year 3	56,322,312
21	Cumulative kWh w/ losses (net free) Year 4	63,794,039
22	Cumulative kWh w/ losses (net free) Year 5	72,504,551
23	Per Participant Coincident Saved Winter kW w/losses	1
24	Per Participant Coincident Saved Summer kW w/losses	1
25	Per Participant Annual kWh w/losses Year 1	4,558
26	Per Participant Annual kWh w/losses Year 2	4,558
27	Per Participant Annual kWh w/losses Year 3	4,558
28	Per Participant Annual kWh w/losses Year 4	4,558
29	Per Participant Annual kWh w/losses Year 5	4,558
30	Cumulative Lost Revenue (Net Free Riders) Year 1	\$1,824,202
31	Cumulative Lost Revenue (Net Free Riders) Year 2	\$3,705,841
32	Cumulative Lost Revenue (Net Free Riders) Year 3	\$5,026,780
33	Cumulative Lost Revenue (Net Free Riders) Year 4	\$5,826,295
34	Cumulative Lost Revenue (Net Free Riders) Year 5	\$6,776,113
35	Lost Revenue per Participant Year 1	\$389
36	Lost Revenue per Participant Year 2	\$398
37	Lost Revenue per Participant Year 3	\$407
38	Lost Revenue per Participant Year 4	\$416
39	Lost Revenue per Participant Year 5	\$426
40	Total Avoided Costs/MW saved Year 1	\$122,054
41	Total Avoided Costs/MW saved Year 2	\$125,915
42	Total Avoided Costs/MW saved Year 3	\$129,606
43	Total Avoided Costs/MW saved Year 4	\$131,806
44	Total Avoided Costs/MW saved Year 5	\$134,174
45	Total Avoided Costs/MWh saved Year 1	\$43
46	Total Avoided Costs/MWh saved Year 2	\$41
47	Total Avoided Costs/MWh saved Year 3	\$39
48	Total Avoided Costs/MWh saved Year 4	\$42
49	Total Avoided Costs/MWh saved Year 5	\$42

<sup>1</sup> Information in table represents projected participation for new measures and measures currently being offered.

## Smart Saver Program Cost Effectiveness Evaluation

Residential Smart Saver (Current + New Measures, Low Incentive)					
		UCT	TRC	RIM	Participant
1	Avoided T&D Electric	\$4,767,767	\$4,767,767	\$4,767,767	\$0
2	Cost-Based Avoided Production	\$15,507,223	\$15,507,223	\$15,507,223	\$0
3	Cost-Based Avoided Capacity	\$6,371,715	\$6,371,715	\$6,371,715	\$0
4	Lost Revenue	\$0	\$0	\$0	\$32,229,187
5	Net Lost Revenue	\$0	\$0	\$25,179,113	\$0
6	Administration Costs	\$1,456,670	\$1,456,670	\$1,456,670	\$0
7	Implementation Costs	\$3,818,190	\$3,818,190	\$3,818,190	\$0
8	Incentives	\$7,013,242	\$0	\$7,013,242	\$7,013,242
9	Other Utility Costs	\$434,123	\$434,123	\$434,123	\$0
10	Participant Costs	\$0	\$9,146,075	\$0	\$9,146,075
11	Total Benefits	\$26,646,705	\$26,646,705	\$26,646,705	\$39,242,428
12	Total Costs	\$12,722,224	\$14,855,058	\$37,901,337	\$9,146,075
13	Benefit/Cost Ratios	2.09	1.79	0.70	4.29
Data represents present value of costs and benefits over the life of the program.					

Residential Smart Saver (Current + New Measures, High Incentive)					
		UCT	TRC	RIM	Participant
1	Avoided T&D Electric	\$4,767,767	\$4,767,767	\$4,767,767	\$0
2	Cost-Based Avoided Production	\$15,507,223	\$15,507,223	\$15,507,223	\$0
3	Cost-Based Avoided Capacity	\$6,371,715	\$6,371,715	\$6,371,715	\$0
4	Lost Revenue	\$0	\$0	\$0	\$32,229,187
5	Net Lost Revenue	\$0	\$0	\$25,179,113	\$0
6	Administration Costs	\$1,456,670	\$1,456,670	\$1,456,670	\$0
7	Implementation Costs	\$3,818,190	\$3,818,190	\$3,818,190	\$0
8	Incentives	\$8,954,414	\$0	\$8,954,414	\$8,954,414
9	Other Utility Costs	\$434,123	\$434,123	\$434,123	\$0
10	Participant Costs	\$0	\$9,146,075	\$0	\$9,146,075
11	Total Benefits	\$26,646,705	\$26,646,705	\$26,646,705	\$41,183,601
12	Total Costs	\$14,663,397	\$14,855,058	\$39,842,509	\$9,146,075
13	Benefit/Cost Ratios	1.82	1.79	0.67	4.60
Data represents present value of costs and benefits over the life of the program.					